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1 [Multi-grained level of detail using a hierarchical seamless texture atlas](#)



Krzysztof Niski, Budirijanto Purnomo, Jonathan Cohen

April 2007 13D '07: Proceedings of the 2007 symposium on Interactive 3D graphics and games

Publisher: ACM

Full text available: Pdf (2.43 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 132, Citation Count: 0

Previous algorithms for view-dependent level of detail provide local mesh refinements either at the finest granularity or at a fixed, coarse granularity. The former provides triangle-level adaptation often at the expense of heavy CPU usage and low triangle ...

Keywords: geometry image, level of detail, out-of-core, parametrization, texture atlas

2 [Level-of-detail volume rendering via 3D textures](#)



Manfred Weiler, Rüdiger Westermann, Chuck Hansen, Kurt Zimmermann, Thomas Ertl

October 2000 VVS '00: Proceedings of the 2000 IEEE symposium on Volume visualization

Publisher: ACM

Full text available: Pdf (1.04 MB)

Additional Information: [full citation](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 99, Citation Count: 13

3 [Image Space Advection on graphics hardware](#)



Markus Grabner, Robert S. Larmee

May 2005 SCCG '05: Proceedings of the 21st spring conference on Computer graphics

Publisher: ACM

Full text available: Pdf (476.72 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 34, Citation Count: 0

The scientific visualization and computer graphics communities have witnessed a tremendous rise in graphics processing unit (GPU) related literature and methodology recently. This is due in part to the rapidly increasing processing speed offered by graphics ...

Keywords: GPU programming, flow visualization, graphics hardware, textures, vector field visualization

4 Facial modeling and animation



Jörg Haber, Demetri Terzopoulos

August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes

Publisher: ACM

Full text available: Pdf (18.15 MB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 101, Downloads (12 Months): 972, Citation Count: 0

In this course we present an overview of the concepts and current techniques in facial modeling animation. We introduce this research area by its history and applications. As a necessary prerequisite for facial modeling, data acquisition is discussed ...

5 Effects & techniques



Dominic Filion, Rob McNaughton

August 2008 SIGGRAPH '08: ACM SIGGRAPH 2008 classes

Publisher: ACM

Full text available: Pdf (4.54 MB)

Additional Information: [full citation](#), [abstract](#), [references](#)

Bibliometrics: Downloads (6 Weeks): 93, Downloads (12 Months): 93, Citation Count: 0

In this chapter we present the techniques and algorithms used for compelling storytelling in the context of the *StarCraft II*® real-time strategy game. We will go over some of the design goals the technology used to empower our artists ...

6 Real-time volume graphics



Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weiskopf

August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes

Publisher: ACM

Full text available: Pdf (7.63 MB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 62, Downloads (12 Months): 578, Citation Count: 1

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques ...

7 Forward rasterization



Voicu Popescu, Paul Rosen

April 2006 ACM Transactions on Graphics (TOG), Volume 25 Issue 2

Publisher: ACM

Full text available: Pdf (1.04 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 173, Citation Count: 0

We describe forward rasterization, a class of rendering algorithms designed for small polygonal primitives. The primitive is efficiently rasterized by interpolation between its vertices. The interpolation factors are chosen to guarantee that each pixel ...


Key words: 3D warping, antialiasing, point-based modeling and rendering, rasterization, render pipeline

8 [Hierarchical Splatting of Scattered Data](#)

Matthias Hopf, Thomas Ertl

October 2003 VIS '03: Proceedings of the 14th IEEE Visualization 2003 (VIS'03)

Publisher: IEEE Computer Society

Full text available:  [Pdf](#) (1.23 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 49, Citation Count: 3

Numerical particle simulations and astronomical observations create huge data sets containing uncorrelated 3D points of varying size. These data sets cannot be visualized interactively by sim rendering millions of colored points for each frame. Therefore, ...

Keyw ords: Volume Rendering, Scattered Data, Splatting, Hierarchical Visualization


9 [Shear-image order ray casting volume rendering](#)



Yin Wu, Vishal Bhatia, Hugh Lauer, Larry Seiler

April 2003 I3D '03: Proceedings of the 2003 symposium on Interactive 3D graphics

Publisher: ACM

Full text available:  [Pdf](#) (4.43 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 9, Downloads (12 Months): 94, Citation Count: 5

This paper describes shear-image order ray casting, a new method for volume rendering. This method renders sampled data in three dimensions with image quality equivalent to the best of r per-pixel volume rendering algorithms (full image order), while ...

Keyw ords: base plane, image order, ray casting, shear warp, shear-*image* order, volume rendering


10 [A hardware architecture for surface splatting](#)



Tim Weyrich, Simon Heinzle, Timo Aila, Daniel B. Fasnacht, Stephan Oetiker, Mario Botsch, Cyril Fl Simon Mall, Kaspar Rohrer, Norbert Felber, Hubert Kaeslin, Markus Gross

August 2007 SIGGRAPH '07: ACM SIGGRAPH 2007 papers

Publisher: ACM

Full text available:  [Mov](#) (25:4 MIN),  [Pdf](#) (1.97 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index t](#)

Bibliometrics: Downloads (6 Weeks): 39, Downloads (12 Months): 390, Citation Count: 1

We present a novel architecture for hardware-accelerated rendering of point primitives. Our pipe implements a refined version of EWA splatting, a high quality method for antialiased rendering c point sampled representations. A central feature of ...

Keyw ords: 3D graphics hardware, data structures, point-based rendering, rasterization, reordering, surface splatting

11 [Geometric modeling based on triangle meshes](#)



Mario Botsch, Mark Pauly, Christian Rossl, Stephan Bischoff, Leif Kobbelt

July 2006 SIGGRAPH '06: ACM SIGGRAPH 2006 Courses

Publisher: ACM

Full text available:  [Pdf](#) (24.22 MB) Additional Information: [full citation](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 97, Downloads (12 Months): 653, Citation Count: 2

12 Cut-and-paste editing of multiresolution surfaces



Henning Biermann, Ioana Martin, Fausto Bernardini, Denis Zorin

July 2002 ACM Transactions on Graphics (TOG), Volume 21 Issue 3

Publisher: ACM

Full text available: Pdf (10.24 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 84, Citation Count: 30

Cutting and pasting to combine different elements into a common structure are widely used operations that have been successfully adapted to many media types. Surface design could also benefit from the availability of a general, robust, and efficient ...

13 High performance presence-accelerated ray casting

Ming Wan, Arie Kaufman, Steve Bryson

October 1999 VIS '99: Proceedings of the conference on Visualization '99: celebrating ten years

Publisher: IEEE Computer Society Press

Full text available: Pdf (449.19 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 21, Citation Count: 10

We present a novel presence acceleration for volumetric ray casting. A highly accurate estimate for object presence is obtained by projecting all grid cells associated with the object boundary onto the image plane. Memory space and access time are reduced ...

Keywords: interactive classification, multiresolution volumes, parallel processing, presence acceleration, projection template, run-length encoding, volume rendering

14 Point-based computer graphics



Marc Alexa, Markus Gross, Mark Pauly, Hanspeter Pfister, Marc Stamminger, Matthias Zwicker

August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes

Publisher: ACM

Full text available: Pdf (8.94 MB)

Additional Information: [full citation](#), [abstract](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 52, Downloads (12 Months): 490, Citation Count: 3

This course introduces points as a powerful and versatile graphics primitive. Speakers present the latest concepts for the acquisition, representation, modeling, processing, and rendering of point sampled geometry along with applications and research ...

15 Shape-based retrieval and analysis of 3D models



Thomas Funkhouser, Michael Kazhdan

August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes

Publisher: ACM


Full text available: Pdf (12.56 MB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 70, Downloads (12 Months): 632, Citation Count: 0

Large repositories of 3D data are rapidly becoming available in several fields, including mechanical CAD, molecular biology, and computer graphics. As the number of 3D models grows, there is an increasing need for computer algorithms to help people find ...

16 [A hardware architecture for surface splatting](#)

 Tim Weyrich, Simon Heinzle, Timo Aila, Daniel B. Fasnacht, Stephan Oetiker, Mario Botsch, Cyril Flé, Simon Mall, Kaspar Rohrer, Norbert Felber, Hubert Kaeslin, Markus Gross
July 2007 ACM Transactions on Graphics (TOG), Volume 26 Issue 3
Publisher: ACM


Full text available:  [Mov](#) (25:4 MIN),  [Pdf](#) (1.97 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index term](#)


Bibliometrics: Downloads (6 Weeks): 39, Downloads (12 Months): 390, Citation Count: 1

We present a novel architecture for hardware-accelerated rendering of point primitives. Our pipeline implements a refined version of EWA splatting, a high quality method for antialiased rendering of point sampled representations. A central feature of ...

Keywords: 3D graphics hardware, data structures, point-based rendering, rasterization, reordering, surface splatting

17 [An interactive introduction to OpenGL programming](#)


 Dave Shreiner, Ed Angel, Vicki Shreiner
August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes
Publisher: ACM


Full text available:  [Pdf](#) (3.35 MB) Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 174, Citation Count: 0

"An Interactive Introduction to OpenGL Programming" provides an overview of the OpenGL Application Programming Interface (API), a library of subroutines for drawing three-dimensional objects and images on a computer. After the completion of the course, ...

18 [The RACE II engine for real-time volume rendering](#)


 Harvey Ray, Deborah Silver
August 2000 HWWS '00: Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware
Publisher: ACM

Full text available:  [Pdf](#) (785.19 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 20, Citation Count: 2

In this paper, we present the RACE II Engine, which uses a hybrid volume rendering methodology that combines algorithmic and hardware acceleration to maximize ray casting performance relative to the total amount of volume memory throughput contained in ...

19 [Cut-and-paste editing of multiresolution surfaces](#)

 Henning Biermann, Ioana Martin, Fausto Bernardini, Denis Zorin
July 2002 SIGGRAPH '02: Proceedings of the 29th annual conference on Computer graphics and interactive techniques
Publisher: ACM

Full text available:  [Pdf](#) (10.24 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 84, Citation Count: 30

Cutting and pasting to combine different elements into a common structure are widely used operations that have been successfully adapted to many media types. Surface design could also benefit from the availability of a general, robust, and efficient ...

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Terms used:

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1 [Seamless texture atlases](#)



Budirijanto Purnomo, Jonathan D. Cohen, Subodh Kumar

July 2004 SGP '04: Proceedings of the 2004 Eurographics/ACM SIGGRAPH symposium on Geome processing

Publisher: ACM

Full text available: Pdf (492.21 KB)

[Additional Information: full citation, abstract, references, cited by, index term](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 48, Citation Count: 6

Texture atlas parameterization provides an effective way to map a variety of color and data attr from 2D texture domains onto polygonal surface meshes. However, the individual charts of such atlases are typically plagued by noticeable seams. We ...

2 [Interactive visualization of unstructured grids using hierarchical 3D textures](#)

Joshua Leven, Jason Corso, Jonathan Cohen, Subodh Kumar

October 2002 VVS '02: Proceedings of the 2002 IEEE symposium on Volume visualization and graph

Publisher: IEEE Press

Full text available: Pdf (2.83 MB)

[Additional Information: full citation, abstract, references, cited by, index term](#)

Bibliometrics: Downloads (6 Weeks): 1, Downloads (12 Months): 50, Citation Count: 4

We present a system for interactively rendering large, unstructured grids. Our approach is to vo the grid into a 3D voxel octree, and then to render the data using hierarchical, 3D texture mapp This approach leverages the current 3D texture ...

3 [Multi-grained level of detail using a hierarchical seamless texture atlas](#)



Krzysztof Niski, Budirijanto Purnomo, Jonathan Cohen

April 2007 I3D '07: Proceedings of the 2007 symposium on Interactive 3D graphics and games

Publisher: ACM

Full text available: Pdf (2.43 MB)

[Additional Information: full citation, abstract, references, index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 132, Citation Count: 0

Previous algorithms for view-dependent level of detail provide local mesh refinements either at 1 finest granularity or at a fixed, coarse granularity. The former provides triangle-level adaptation

at the expense of heavy CPU usage and low triangle ...

Keyw ords: geometry image, level of detail, out-of-core, parametrization, texture atlas

4 An accelerating splatting algorithm based on multi-texture mapping for volume rendering



Han Xiao, De-Gui Xiao

November 2006 GRAPHITE '06: Proceedings of the 4th international conference on Computer graphics and interactive techniques in Australasia and Southeast Asia

Publisher: ACM

Full text available: Pdf (134.80 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 60, Citation Count: 0

Texture-mapping hardware has been successfully exploited for volume rendering. In this paper, combine splatting method with 2D texture mapping efficiently and propose an algorithm for footprint algorithm based volume rendering accelerated by multi ...

Keyw ords: footprint, multi texture blending, splatting, volume render

5 A gentle introduction to bilateral filtering and its applications



Sylvain Paris

August 2007 SIGGRAPH '07: ACM SIGGRAPH 2007 courses

Publisher: ACM

Full text available: Mov (100:20 MIN), Pdf (27.35 MB) Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 90, Downloads (12 Months): 716, Citation Count: 0

- Image-based modeling and photo editing *Oh et al.* ACM SIGGRAPH conference (c) 2001, Assoc for Computing Machinery, Inc. Reprinted by permission. <http://doi.acm.org/10.1145/383259.38>
Fast bilateral filtering for the display of high-dynamic-range ...

6 Level-of-detail volume rendering via 3D textures



Manfred Weiler, Rüdiger Westermann, Chuck Hansen, Kurt Zimmermann, Thomas Ertl

October 2000 VVS '00: Proceedings of the 2000 IEEE symposium on Volume visualization

Publisher: ACM

Full text available: Pdf (1.04 MB)

Additional Information: [full citation](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 99, Citation Count: 13

7 Hardware-Accelerated Adaptive EWA Volume Splatting

Wei Chen, Liu Ren, Matthias Zwicker, Hanspeter Pfister

October 2004 VIS '04: Proceedings of the conference on Visualization '04

Publisher: IEEE Computer Society

Full text available: Pdf (1.97 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 2, Downloads (12 Months): 45, Citation Count: 1

We present a hardware-accelerated adaptive EWA (elliptical weighted average) volume splatting algorithm. EWA splatting combines a Gaussian reconstruction kernel with a low-pass image filter high image quality without aliasing artifacts or excessive ...

Keywords: Direct volume rendering, volume splatting, EWA filter, hardware acceleration

8 Spectral processing of point-sampled geometry



Mark Pauly, Markus Gross

August 2001 SIGGRAPH '01: Proceedings of the 28th annual conference on Computer graphics and interactive techniques

Publisher: ACM

Full text available: Pdf (3.06 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 14, Downloads (12 Months): 100, Citation Count: 29

We present a new framework for processing point-sampled objects using spectral methods. By establishing a concept of local frequencies on geometry, we introduce a versatile spectral representation that provides a rich repository of signal processing ...

Keywords: Fourier transform, point-based representations, signal processing, spectral filtering, subsampling

9 Facial modeling and animation



Jörg Haber, Demetri Terzopoulos

August 2004 SIGGRAPH '04: ACM SIGGRAPH 2004 Course Notes

Publisher: ACM

Full text available: Pdf (18.15 MB)

Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 101, Downloads (12 Months): 972, Citation Count: 0

In this course we present an overview of the concepts and current techniques in facial modeling animation. We introduce this research area by its history and applications. As a necessary prere for facial modeling, data acquisition is discussed ...

10 Spectral surface quadrangulation



Shen Dong, Peer-Timo Bremer, Michael Garland, Valerio Pascucci, John C. Hart

July 2006 SIGGRAPH '06: ACM SIGGRAPH 2006 Papers

Publisher: ACM

Full text available: Mov (20:28 MIN), Pdf (1.52 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited index terms](#)

Bibliometrics: Downloads (6 Weeks): 16, Downloads (12 Months): 174, Citation Count: 14

Resampling raw surface meshes is one of the most fundamental operations used by nearly all di geometry processing systems. The vast majority of this work has focused on triangular remeshi quadrilateral meshes are preferred for many surface ...

Keywords: Morse theory, Morse-Smale complex, laplacian eigenvectors, quadrangular remeshi spectral mesh decomposition

11 Effects & techniques



Dominic Filion, Rob McNaughton

August 2008 SIGGRAPH '08: ACM SIGGRAPH 2008 classes

Publisher: ACM


Full text available: Pdf (4.54 MB)


Additional Information: [full citation](#), [abstract](#), [references](#)

Bibliometrics: Downloads (6 Weeks): 93, Downloads (12 Months): 93, Citation Count: 0

In this chapter we present the techniques and algorithms used for compelling storytelling in the context of the *StarCraft II*® real-time strategy game. We will go over some of the design goals technology used to empower our artists ...

12 [Rendering of virtual environments based on polygonal & point-based models](#)

 Wenting Zheng, Hanqiu Sun, Hujun Bao, Qunsheng Peng
November 2002 VRST '02: Proceedings of the ACM symposium on Virtual reality software and techr
Publisher: ACM


Full text available:  Pdf (336.80 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 4, Downloads (12 Months): 47, Citation Count: 1

Real-time rendering for large-scale, complex dynamic virtual scenes is a challenging problem in computer graphics. In this paper, we propose a hybrid rendering algorithm of dynamic virtual environments that seamlessly fuses the point-based scheme and ...

Keyw ords: BSP tree, dynamic virtual environments, hierarchical occlusion map (HOM), point-b rendering

13 [A hardware architecture for surface splatting](#)

 Tim Weyrich, Simon Heinzle, Timo Aila, Daniel B. Fasnacht, Stephan Oetiker, Mario Botsch, Cyril Fl Simon Mall, Kaspar Rohrer, Norbert Felber, Hubert Kaeslin, Markus Gross
August 2007 SI GGRAPH '07: ACM SIGGRAPH 2007 papers
Publisher: ACM


Full text available:  Mov (25:4 MIN),  Pdf (1.97 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index t](#)

Bibliometrics: Downloads (6 Weeks): 39, Downloads (12 Months): 390, Citation Count: 1

We present a novel architecture for hardware-accelerated rendering of point primitives. Our pipe implements a refined version of EWA splatting, a high quality method for antialiased rendering c sampled representations. A central feature of ...

Keyw ords: 3D graphics hardware, data structures, point-based rendering, rasterization, reorde surface splatting

14 [Real-time volume graphics](#)

 Klaus Engel, Markus Hadwiger, Joe M. Kniss, Aaron E. Lefohn, Christof Rezk Salama, Daniel Weisko
August 2004 SI GGRAPH '04: ACM SIGGRAPH 2004 Course Notes
Publisher: ACM



Full text available:  Pdf (7.63 MB) Additional Information: [full citation](#), [abstract](#)

Bibliometrics: Downloads (6 Weeks): 62, Downloads (12 Months): 578, Citation Count: 1

The tremendous evolution of programmable graphics hardware has made high-quality real-time volume graphics a reality. In addition to the traditional application of rendering volume data in scientific visualization, the interest in applying these techniques ...

15 [Circular incident edge lists: a data structure for rendering complex unstructured grids](#)

Bruno Lévy, Guillaume Caumon, Stéphane Conreux, Xavier Cavin
October 2001 VI S '01: Proceedings of the conference on Visualization '01
Publisher: IEEE Computer Society

Full text available:  [Publisher Site](#) ,  Pdf (2.30 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by terms](#)

Bibliometrics: Downloads (6 Weeks): 0, Downloads (12 Months): 21, Citation Count: 1

We present the *Circular Incident Edge Lists* (CIEL), a new data structure and a high-performance algorithm for generating a series of iso-surfaces in a highly unstructured grid. Slicing-based volume rendering is also considered. The CIEL data structure ...

Keywords: combinatorial topology, iso-surfaces, unstructured grids, volume rendering

16 [A suggestive interface for image guided 3D sketching](#)



Steve Tsang, Ravin Balakrishnan, Karan Singh, Abhishek Ranjan

April 2004 CHI '04: Proceedings of the SIGCHI conference on Human factors in computing system
Publisher: ACM

Full text available:  Pdf (1.01 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term review](#)

Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 112, Citation Count: 7

We present an image guided pen-based suggestive interface for sketching 3D wireframe models. Rather than starting from a blank canvas, existing 2D images of similar objects serve as a guide user. Image based filters enable attraction, smoothing, ...

Keywords: image based interaction, sketching interfaces

17 [Interactive geometry remeshing](#)



Pierre Alliez, Mark Meyer, Mathieu Desbrun

July 2002 SIGGRAPH '02: Proceedings of the 29th annual conference on Computer graphics and interactive techniques

Publisher: ACM

Full text available:  Pdf (14.91 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 19, Downloads (12 Months): 117, Citation Count: 36



We present a novel technique, both flexible and efficient, for interactive remeshing of irregular geometry. First, the original (arbitrary genus) mesh is substituted by a series of 2D maps in parameter space. Using these maps, our algorithm is then able ...

18 [RTVR: a flexible java library for interactive volume rendering](#)

Lukas Mroz, Helwig Hauser

October 2001 VIS '01: Proceedings of the conference on Visualization '01

Publisher: IEEE Computer Society

Full text available:  [Publisher Site](#) ,  Pdf (2.08 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by terms](#)

Bibliometrics: Downloads (6 Weeks): 0, Downloads (12 Months): 41, Citation Count: 5

This paper presents several distinguishing design features of RTVR - a Java-based library for real-time volume rendering. We describe, how the careful design of data structures, which in our case are on voxel enumeration, and an intelligent use ...

Keywords: interactive volume visualization, internet-based visualization, java



Forward rasterization

Voicu Popescu, Paul Rosen

April 2006 ACM Transactions on Graphics (TOG), Volume 25 Issue 2

Publisher: ACM

Full text available: Pdf (1.04 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 20, Downloads (12 Months): 173, Citation Count: 0

We describe forward rasterization, a class of rendering algorithms designed for small polygonal primitives. The primitive is efficiently rasterized by interpolation between its vertices. The interpolation factors are chosen to guarantee that each pixel ...

Keywords: 3D warping, antialiasing, point-based modeling and rendering, rasterization, render pipeline

20 Adaptive view dependent tessellation of displacement maps



Michael Doggett, Johannes Hirche

August 2000 HWWS '00: Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware

Publisher: ACM

Full text available: Pdf (8.06 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index term](#)

Bibliometrics: Downloads (6 Weeks): 9, Downloads (12 Months): 79, Citation Count: 13

Displacement Mapping is an effective technique for encoding the high levels of detail found in triangle based surface models. Extending the hardware rendering pipeline to be capable of handling displacement maps as geometric primitives, will ...

Keywords: displacement mapping, graphics hardware

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